

## AMENDMENT

### **Amendments to the Claims:**

Please amend the claims as shown in the following listing of claims, which will replace all prior versions and listings of claims in the application.

1-17. (Canceled)

18. (Previously Presented) A pharmaceutical composition comprising a polypeptide comprising an amino acid sequence having at least 90% amino acid identity with the amino acid sequence from amino acid residue 36 to amino acid residue 175 of SEQ ID NO:1 and at least one physiologically acceptable excipient.

19. (Previously Presented) The pharmaceutical composition of claim 18, wherein the polypeptide is further defined as comprising an amino acid sequence from amino acid residue 36 to amino acid residue 175 of SEQ ID NO:1.

20. (Previously Presented) The pharmaceutical composition of claim 18, wherein the polypeptide is further defined as comprising an amino acid sequence having 90% amino acid identity with the amino acid sequence from amino acid residue 27 to amino acid residue 175 of SEQ ID NO:1.

21. (Previously Presented) The pharmaceutical composition of claim 18, wherein the polypeptide is further defined as comprising the amino acid sequence from amino acid residue 27 to amino acid residue 175 of SEQ ID NO:1.

22. (Previously Presented) The pharmaceutical composition of claim 18, wherein the polypeptide is further defined as a human hepatocarcinoma-intestine-pancreas/pancreatic-associated protein (HIP/PAP) with the amino acid sequence of SEQ ID NO:1.

23. (Previously Presented) The pharmaceutical composition of claim 18, wherein the polypeptide is comprised in an amount effective to stimulate liver regeneration *in vivo*.

24. (Previously Presented) The pharmaceutical composition of claim 23, wherein the polypeptide is comprised in an amount effective to stimulate liver regeneration after chronic or acute liver failure.

25. (Previously Presented) The pharmaceutical composition of claim 18, further defined as comprising a therapeutically effective amount of a hepatotoxic compound.

26. (Previously Presented) The pharmaceutical composition of claim 25, further defined as resulting in limited liver necrosis during use.

27. (Previously Presented) A method of treating a subject comprising:  
obtaining a pharmaceutical composition of claim 18; and  
administering the pharmaceutical composition to a subject.

28. (Previously Presented) The method of claim 27, wherein the subject is a human.

29. (Previously Presented) The method of claim 27, further defined as a method of stimulating liver regeneration in the subject.

30. (Previously Presented) The method of claim 27, wherein the subject has chronic or acute liver failure.

31. (Previously Presented) The method of claim 27, wherein the subject is at risk of or has liver necrosis.

32. (Previously Presented) The method of claim 27, wherein the subject has had a liver resection.

33. (Previously Presented) The method of claim 27, wherein the subject has a partial liver transplant, a hepatic failure, hepatic cirrhosis, or hepatic cancer.

34. (Previously Presented) The method of claim 33, wherein the subject has hepatic failure caused by liver disease.

35. (Previously Presented) The method of claim 33, wherein the subject has hepatic cirrhosis of alcoholic, viral, or drug cause.

36. (Previously Presented) The method of claim 27, wherein the subject has Hepatitis B, Hepatitis C, Urea Cycle defects, Familial hypercholesterolemia, Alcohol induced cirrhosis, Glycogen Storage Disease, Autoimmune Hepatitis, Primary Hyperoxaluria type I, Cryptogenic cirrhosis, Crigler-Najjar syndrome type 1, Congenital Hepatic Fibrosis, Niemann-Pick Disease, Primary Biliary Cirrhosis, Familial Amyloidosis, Biliary Atresia, Hepatocellular Carcinoma, Primary Sclerosing Cholangitis, Hepatoblastoma, Alagille

Syndrome, Hemangioendothelioma, Familial Cholestasis, Non-Carciniod neuro- endocrine, Drug induced liver failure, benign liver tumor, liver tumor, Acute and or fulminant liver failure, Budd-Chiari syndrome, Alpha-1-antitrypsin deficiency, Wilson Disease, Hemochromatosis, Tyrosinemia, Protoporphyrinia, and/or Cystic fibrosis.

37. (Previously Presented) A composition comprising a polypeptide comprising an amino acid sequence having at least 90% amino acid identity with the amino acid sequence from amino acid residue 36 to amino acid residue 175 of SEQ ID NO:1 and a cell.
38. (Previously Presented) The composition of claim 37, wherein the cell is a hepatocyte.
39. (Previously Presented) The composition of claim 38, wherein the hepatocyte is a dividing hepatocyte.
40. (Previously Presented) The composition of claim 37, wherein the cell is a bone-marrow stem cell.
41. (Previously Presented) A cell comprising an expression cassette that drives expression of a polypeptide comprising an amino acid sequence having at least 90% amino acid identity with the amino acid sequence from amino acid residue 36 to amino acid residue 175 of SEQ ID NO:1.
42. (Previously Presented) The cell of claim 41, further defined as a hepatocyte.
43. (Previously Presented) A pharmaceutical composition comprising:
  - a polypeptide comprising an amino acid sequence having at least 90% amino acid identity with the amino acid sequence from amino acid residue 36 to amino acid residue 175 of SEQ ID NO:1 and a cell; or
  - a cell comprising an expression cassette that drives expression of a polypeptide comprising an amino acid sequence having at least 90% amino acid identity with the amino acid sequence from amino acid residue 36 to amino acid residue 175 of SEQ ID NO:1.
44. (Previously Presented) A process for stimulating cell growth *in vitro* comprising:
  - (a) collecting cells;
  - (b) cultivating said cells in an appropriate culture medium; and
  - (c) treating said cells with a mitogenic amount of a polypeptide comprising an amino acid sequence having at least 90% amino acid identity with the amino acid

sequence from amino acid residue 36 to amino acid residue 175 of SEQ ID NO:1; or transfecting the cell with an expression cassette that drives expression of a polypeptide comprising an amino acid sequence having at least 90% amino acid identity with the amino acid sequence from amino acid residue 36 to amino acid residue 175 of SEQ ID NO:1.

45. (Previously Presented) The process of claim 44, further defined as a process for stimulating hepatocyte growth *in vitro* comprising:

- (a) collecting hepatocytes;
- (b) cultivating said hepatocytes in an appropriate culture medium; and
- (c) treating said hepatocytes with a mitogenic amount of a polypeptide comprising an amino acid sequence having at least 90% amino acid identity with the amino acid sequence from amino acid residue 36 to amino acid residue 175 of SEQ ID NO:1.

46. (Previously Presented) The process of claim 44, further defined as a process for stimulating hepatocyte growth *in vitro* comprising:

- (a) collecting hepatocytes;
- (b) cultivating said hepatocytes in an appropriate culture medium; and
- (c) transfecting said hepatocytes with an expression cassette that drives expression of a polypeptide comprising an amino acid sequence having at least 90% amino acid identity with the amino acid sequence from amino acid residue 36 to amino acid residue 175 of SEQ ID NO:1.

47. (Previously Presented) The process of claim 44, further defined as a process for treating bone marrow-stem cells *in vitro* comprising:

- (a) collecting bone marrow stem cells;
- (b) cultivating said bone marrow stem cells in an appropriate culture medium; and
- (c) treating said bone marrow stem cells with a mitogenic amount of a polypeptide comprising an amino acid sequence having at least 90% amino acid identity with the amino acid sequence from amino acid residue 36 to amino acid residue 175 of SEQ ID NO:1.

48. (Previously Presented) The process of claim 44, further defined as a process of manufacturing a pharmaceutical composition.

49. (New) A process of inhibiting hepatocyte apoptosis *in vitro* comprising:

- (a) collecting hepatocytes;
- (b) cultivating said hepatocytes in an appropriate culture medium; and
- (c) treating said hepatocytes with an effective amount of a polypeptide comprising an amino acid sequence having at least 90% amino acid identity with the amino acid sequence from amino acid residue 36 to amino acid residue 175 of SEQ ID NO:1; or transfecting the cell with an expression cassette that drives expression of a polypeptide comprising an amino acid sequence having at least 90% amino acid identity with the amino acid sequence from amino acid residue 36 to amino acid residue 175 of SEQ ID NO:1.